National Science Foundation
Beijing Office

2016-01-08: NSF-funded Hot Springs Ecology PIRE project team conducts fieldwork in China

In January, 2016, eight members of the Tengchong PIRE (NSF award #0968421 PIRE: Toward a holistic and global understanding of hot spring ecosystems: A US-China based international collaboration) team visited China to conduct research on geothermal springs in Tengchong County, Yunnan Province. The prestigious Partnerships in International Research and Education (PIRE) program provides support for extensive involvement of students in international team-based research projects, providing access to unique research sites around the world. Awarded in 2010, the Tengchong PIRE group has already published over 100 scientific papers on their work.

The 2016 field research was conducted at the Rehai Geothermal Field and the village of Dientan. The US team was composed of undergraduate and graduate students, research fellows, and faculty members from the University of Nevada - Las Vegas, Northern Arizona University, Miami University, and University of Alaska - Anchorage. The US team was accompanied by a team of collaborating postdoctoral fellows and graduate students from Sun Yat-sen University, Yunnan University, and China University of Geosciences.

PIRE team members Brian Hedlund, University of Nevada - Las Vegas, Jamie Brown, and Becky Mau, Northern Arizona University pause for a photo following presentations at the School of Life Sciences at Sun Yat-sen University. Also pictured is Wen-Jun Li, Principal Investigator of a collaborative grant funded by the Chinese Ministry of Science and Technology.

Left: Faculty members Paul Dijsktra (Northern Arizona University, right) and Brandon Briggs (University of Alaska - Anchorage, left) and research fellow Jamie Brown (Northern Arizona University, middle) collect samples for experiments at at Diretiyanqu, a high-temperature acidic system (~80°C, pH 2.5) in the Rehai Geothermal Field.

Right: A team of PIRE researchers and Chinese collaborators conduct quantitative stable isotope probing experiments and experiments to examine interactions between hot spring and soil ecosystems at Diretiyanqu, a high-temperature acidic system (~80°C, pH 2.5) in the Rehai Geothermal Field.

Left: Faculty member Paul Dijsktra (left) and research fellow Jamie Brown (right), both of Northern Arizona University, conduct quantitative stable isotope probing experiments in near-boiling springs in the Rehai Geothermal Field.

Right: Faculty member Paul Dijsktra (Northern Arizona University, back) and postdoctoral fellow Linqing Chan (Sun Yat-sen University, front) sample endolithic ("within rock") microbial communities adjacent to a steam fumaroles in the Rehai Geothermal Field.

The U.S. team also visited China University of Geosciences - Beijing, Yunnan University, and Sun Yat-sen University to share research materials and discuss current and future collaborations and plans for mutual research exchanges of both students and faculty.

On Jan 11, the U.S. team and their Chinese partners Wenjun LI, Sun Yat-sen university and Hongchen JIANG, China University of Geosciences visited the NSF Beijing Office and reported their research progress and collaboration.

Tengchong PIRE team and Chinese partners Wenjun LI (first from left), Sun Yat-sen University and Hongchen JIANG (first from right) of China University of Geosciences at NSF Beijing Office.

More information about NSF Partnerships for International Research and Education (PIRE) program can be found at: ***http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505038***